

## **ABSTRACT**

[0001] There is disclosed in embodiments methods for halftone dot encoding for engine-dependent-rendering. The methods first carefully design an asymmetric halftone dot for a specific printer and then utilizes a halftone dot encoding algorithm, which encodes the asymmetric halftone dot into a symmetric format. The asymmetric halftone dot design is satisfies the requirements of raster output scanner electronics, as well as several engine dependent constraints. These include: rotation insensitivity, minimum dot size, minimum hole size, minimum appendage, and minimum cavity. The symmetric dot encoding allows perfect reconstruction of the binaries that may have been generated using the original asymmetric dot. This reconstruction is achieved using imbedded binary resolution conversion. In this way, this resolution conversion is acting as a decoder.